

ODISHA SPACE APPLICATIONS CENTRE(ORSAC)
Deptt. of Science & Technology, Govt. of Odisha
Plot No.45/48(P), JayadevVihar, Near Gopabandhu Academy of
Administration, Unit-16, Bhubaneswar-751 023

TENDER NOTICE No. 07/2024

Sealed tenders are invited from eligible ORSAC empanelled UAV/Drone Survey Agencies and from all the agencies (having requisite qualifications as mentioned in annexure-A) for undertaking Drone Survey for replenishment study and resource estimation of sand mines from river bed through ORSAC Empanelled Agencies and from all the agencies (having requisite qualifications as mentioned in annexure-A) following Standard Operating Procedure of State Environment Impact Assessment Authority, SEIAA/ORSAC for execution of work. The survey will be undertaken for Pre-Monsoon and Post -Monsoon period and as and when required. The details of events are mentioned below:

1. Date of publication of tender notice : 04.07.2024
2. Tender paper cost : Rs 5,000.00
3. Last date of submission of Pre-bid queries : 09.07.2024 up to 2 P.M.
4. Schedule for Pre-bid meeting : 09.07.2024 at 3.00 P.M on VC mode
5. Last date of submission of bid documents : 16.07.2024 up to 11 A.M.
6. Opening of Technical Bids : 16.07.2024 at 11.30 A.M.
7. Technical Presentation : 16.07.2024 at 2.00 P.M
8. Opening of Financial Bids of technically qualified bidders: will be communicated later

Non-transferable tender documents for Replenishment study and resource estimation as stated above will be available from office of the Odisha Space Applications Centre (ORSAC), Bhubaneswar on payment of Rupees mentioned in the above table towards cost of tender document. The tender document cost, which is non-refundable, is payable in shape of Demand Draft drawn on any Nationalized Bank having branch at Bhubaneswar in favour of the Chief Executive, Odisha **Space Applications Centre, Bhubaneswar, Odisha**. This tender notice can also be accessed through Internet in the ORSAC **website: <https://orsac.odisha.gov.in/>** and bid document can be downloaded. The downloaded bid document can also be used provided it is accompanied with a Demand Draft towards cost of the tender document. Tenderers interested to receive tender documents by Registered Post should pay additional amount of Rs.200/- (Rupees two hundred) only. However, ORSAC will not be responsible for postal delays in delivery of the documents.

The Tenderers are required to furnish attested copies of GST registration certificate from the competent authority as applicable along with the tender.

Conditional tender in any form will be out rightly rejected.

The deliverables as mentioned in Terms of Reference are to be delivered at ORSAC, Bhubaneswar.

The tenders should be submitted after due compliance with guidelines given in the tender documents.

Tenders submitted in incomplete form shall be rejected outright.

The tender papers will be available for sale in the office of the ORSAC between **11.00 A.M to 4.00 P.M.** on Odisha govt. official working days' till **15.07.2024**. The sealed tenders will be received through Registered Post/Speed Post and tender box placed at ORSAC **up to 11.00 A.M.** till **16.07.2024**. The tender will be opened at **11.30 A.M on 16.07.2024** in presence of the Tenderers or their authorized representatives, if any.

ORSAC reserves the right to cancel any or all tenders without assigning any reason thereof.

By the order of CE,

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Terms & condition

1. Tender received by post after the stipulated date and time mentioned above will not be considered.
2. The rates along with Tax components, if any, should be quoted clearly.
3. The following documents should be furnished with the Technical bid failing which the tender is liable for rejection.
 - a. Attested copy of valid PAN Card and GST Registration Certificates
 - b. DD/ original money receipt granted by ORSAC towards cost of tender paper.

(The original Certificates shall be produced at the time of opening of tender, if required)

4. If the date of sale, receipt and opening of the tender as specified above happens to be holiday(s), then the process of sale, receipt and opening whatsoever will be shifted to immediate next working day at the same time and venue respectively without further notice. However, date of tender paper opening may be postponed as per the convenience of the authority by intimating all the concerned tenderers through notice affixing to Notice Board / website of ORSAC.
5. The Tender papers should be well documented. Without proper indexing, page number & tagging, the tender document will be rejected out rightly.
6. The quoted rate should be based on Per Hectare basis. However, minimum area will be considered as 10 Acre, when the area is less than 10 Acre.
7. ORSAC may engage multiple vendors at selected price as per QCBS method for early completion of Project. The vendors may be considered to give their consent to work at the selected price. However, the vendors quoted below the selected price as per QCBS method will not be considered.
8. The successful Bidder has to submit an PBG as mentioned in the tender document and the amount is to be forfeited if the tenderer backs out from the offer acceptance of tender by the competent authority.
9. The sand replenishment and resource estimation study is to be undertaken as per SOP specified by SEIAA/ORSAC and in the presence of User Agency, if required.
10. The tender should be submitted as per the Terms of Reference attached at Annexure-B
11. The tenderers should file tender super scribing on the top of envelop/cover – “**Tender For River sand replenishment study and resource estimation**”. There shall be two bid systems, one is Technical Bid and the other is financial Bid. The Technical Bid shall contain covering all the Technical details.

The financial Bid shall be as per the **Annexure – C**.

- 12.** Agencies which are not empanelled and found to be qualified with all conditions are to get empanelled with ORSAC. As per Policy, no Survey Agency can access the web portal of ORSAC-GEOSERVICES without empanelment at ORSAC. Hence, the firm can't access the Ground Control Points and Bench Marks required for Drone Survey. Also the firm can't upload survey data for processing and vetting.
- 13. BID EVALUATION-**The bids shall be evaluated based on combined **Quality and Cost Based Selection (QCBS)** method.
- a. **Evaluation of Technical Bid-** The Bids submitted up to last date will be opened at ORSAC by the Chief Executive, ORSAC or any other officer(s) authorized by ORSAC, in the presence of such of those Bidders or their representatives who may choose to be present at the time of opening. The representatives of the Bidder are advised to carry a letter of authority from the bidders for attending the Bid opening.

The Evaluation Committee will check the submission of documents as per the criteria. Those who are selected after the check shall be called for a Technical Presentation. The committee will evaluate the technical bids as per the **"Tech Score Criteria"** mentioned in the following table.

The technical presentation will be of approximately 10-15 minutes' duration. Evaluation of the technical presentation shall be conducted by the evaluation committee and shall be based on Bidder's similar past experience in Drone Survey, availability of infrastructure & techno-managerial capacity. ORSAC may also seek written clarifications from the Bidder soon after the bids submitted by them, during the evaluation process. The primary function or clarifications in the evaluation process is to clarify ambiguities and uncertainties. if any, arising out of the evaluation of the bid documents.

SI No	Technical Score Criteria	Max Mark	Scoring Criteria
1	The Annual Average Turnover will be considered as per last three financial years. (FY 2022-23, 2021-22 & 2020-21). The financial statement should reflect turnover. Auditor certified turnover statement and net worth for FY 2022-23, FY 2021-22 & FY 2020-21 in original along with balance sheet and profit and loss account for the said	15	<p>i. Upto 50 lakhs:05 (Five) Marks</p> <p>ii. 50 lakhs to 01 Crore: 10(Ten) Marks.</p> <p>iii. 01 Crore and Above: 15 (Fifteen) Marks.</p>

	Financial Years to be submitted.		
2	The bidders should have DGPS/Drone Survey& Geo-informatics professionals on regular payroll, valid ESI Numbers/ Group Insurance Certificate. Copy of EPF/ESI Registration/ Group Insurance Certificate with latest return listing personnel name to be submitted. Evaluation will be made as per Scoring criteria	10	For DGPS/Drone survey professional: i. Up to 05 Professionals: 5 (Five) Marks ii. 06 To 10 Professionals: 8 (Eight) Marks iii. >10 Professionals: 10 (Ten) Marks
3	Past similar experience in Drone survey	25	i. 0-1 Sq.Km: 10 marks, ii. 1-5 Sq.Km.: 20 marks, iii. More than 5 Sq.Km:25 marks.
4	The Organization should have at least ISO 27001:2013 certification on Information security and ISO 9001:2015 Quality Certification.	10	Producing Valid ISO Certificate= 10 Mark No Certificate=0 Mark
5	Technical Presentation, broadly covering the aspect of: • Bidder's similar past experience in Drone Survey • Proof of concept • Availability of infrastructure & techno-managerial capacity	40	It is to be awarded by Technical Evaluation Committee members and it will be the arithmetic average of all marks awarded by the Tech Committee members.
	Total Technical Marks / Scores	100	

The Bidder scoring a minimum of **50 marks out of 100** in the Technical Bid Evaluation process, shall be declared as the Technically Qualified Bidder. The Financial bids shall be opened only for the Technically Qualified Bidders.

Evaluation of Price Bid: The price bids shall be opened only for the Technically Qualified Bidders on the scheduled date as mentioned in the tender notice. The authorized representatives of the Technically Qualified Bidders may be present during the price bid opening process. The price bids shall be scrutinized for their conformity to the specified formats and signatures. The price bids not in specified format and/or not with signature of the authorized representatives shall be summarily rejected. Scrutiny and evaluation of the price bids shall be conducted as follows. In the event of difference between the price mentioned in figures and words, the price in words shall be considered valid and binding.

The marks obtained by the bidders in the Financial Bid evaluation shall be considered as Financial Score (FS). The Financial Score of the other Technically Qualified Bidders shall be computed as per the following formula:

$$FS=100 \times (Fmin/Fb)$$

Where:

FS = Financial Score for the bidder under consideration

Fmin= minimum price quoted by any bidder

Fb = price quoted by the bidder

The Technical Score (TS) and the Financial Score (FS) secured by each bidder shall be subjected to the Technical Weightage WT= 0.70 (the weight given to the technical proposal) and Financial Weightage WF = 0.30 (the weight given to the financial proposal).

The Combined Technical and Financial Score (S) for the bidder (s) shall be computed as per the following formula.

$$S = (TS \times 0.7) + (FS \times 0.3)$$

**where S – Final Score, TS – Technical Score and
FS – Financial Score**

14. Performance Bank Guarantee: The selected Bidders may be required to submit a Performance Bank Guarantee as decided by Directorate of Minor Minerals.

15. Liquidated Damages: In case the selected Bidder fails to attain completion of the work Within the scheduled time for Completion or any extension thereof due to reasons attributable to the selected bidder, Directorate of Minor Minerals may recover the amount of Liquidated Damages, by making deductions from the selected bidder's account or by encashment of Bank Guarantees. However, the payment of liquidated damages shall not in any way relieve the selected Bidder from any of its obligations to complete the Work or from any other obligations and Liabilities of the Consultant under the Contract.

16. Insurance & Liability: The selected Bidder shall, at his own expense, arrange appropriate comprehensive insurance to cover all risks assumed by the vendor under this contract in respect of its personnel and equipment deployed under this contract. ORSAC shall not be liable for any incident relating to any damage to the machines/ persons involved during the survey/work.

17. Payment Terms and Condition: All work order /payments shall be made by Mining Officers / Lessee in favor of the Bidder on successful completion of Drone survey and submission of relevant deliverables as per Terms of Reference and after QA/QC, undertaken by ORSAC for each frequency of the Survey work. The Bidder has to deposit an amount equal to 10% of contract value to ORSAC towards vetting of the data/outputs submitted after conducting the Survey.

18. In case of any dispute between the Tenderers and ORSAC regarding interpretation of Tender Document conditions, the decision of the Chief Executive, ORSAC shall be final and binding.

19. The undersigned reserves the right to reject any or all the tenders without assigning any reason thereof. Any dispute in this matter will be settled up within Bhubaneswar jurisdiction.

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SURVEY AGENCY'S REQUIREMENTS:

1. The Applicants must be either a registered sole proprietorship / partnership firm or a Company Registered under the Indian Companies Act, 1956/2013 and should be operational minimum for last 3 years in the field of operation. In case of Consortium Bid, the signed Consortium Agreement printed in non-judicial stamp papers costing Rs 100.00/each stamp paper.
2. The Firm Should have a Physically Verifiable & Full-fledged Registered and Business class Office in Odisha or it shall establish a such a business class office at Odisha immediately after got empaneled through this Notice.
3. Company should have a valid Odisha Registered GST Number (OGSTN) or intend to register under Odisha Government to have a GST Number in Odisha
4. The Bidder / Bidders should not have been blacklisted/banned by any Central/State Government (Central /State Government and Public Sector) and any Court of Law or under a declaration of ineligibility for corrupt or fraudulent practices as on date of Bid Submission. Affidavit to this effect shall be submitted by all the Bidders and their consortium partners.

Technical Requirements:

- I. All Offerors shall provide DGCA certifications which provide proof that the Unmanned Aerial System (UAS) /Unmanned Aerial Vehicle (UAV) / Drone comply all the recent regulations of DGCA relating to purchase and operation. If an Offeror is awarded a contract, then the Contractor and/or sub-Contractors, which perform UAS flight missions, shall be DGCA Certified, or as amended by DGCA. The Contractors are required to provide proof of certification and maintain all proper certifications during the entirety of the contract period. Upon request, the Contractors shall provide the most current certification to the requesting Agency/Agencies.
- II. All Offerors shall provide detailed information of all equipment they are currently using and their capabilities. They shall also provide detailed information regarding equipment which is owned and operated by any sub-contractors that they intend to use to support the resulting contract. This shall include any and all sensors and attachments that may be used to support the Service Categories. All Offerors shall specify clearly under which Service Categories, the equipment owned by them belongs to or can be deployed & able

to support.

- III. All Offerors shall submit the detail equipment maintenance plans to ensure equipment operability in the event of a service request made by ORSAC/ Govt. Department under Govt. of Odisha.
- IV. All Offerors shall provide a brief history of the company and the company's areas of expertise related to this Notice.
- V. All Offerors shall provide examples of missions that have been performed with an emphasis on those performed for Public Bodies. The missions specified should also highlight the Service Categories the Offeror is seeking for qualification.
- VI. All Offerors shall provide resumes and DGCA certificate of the Pilot, who will operate the UAS/UAV/Drone for the mission assigned to the Contractor by ORSAC / Govt., Department under Odisha Government. The Pilot may have to update his/her Certifications during the Project tenure, if that is required by DGCA. The Offerors shall submit the resumes of the key personnel that shall be assigned to work on the Contract relating to flight planning, DGPS Survey to establish the GCPs before flying UAS and processing of UAS data to generate products.
- VII. All Offerors shall specify which District of the State of Odisha or whole or part of the State of Odisha, they are able to support if requested by ORSAC / Govt. Department under Odisha Government. Along with this information, Offerors shall provide information on both standard and emergency response times within their specified areas of operation.
- VIII. Offerors shall understand that they may be required to receive training from State or Local Emergency Officials in order to understand the requirements and to provide UAS Image Service & Support in the event of a declared emergency.
- IX. Contractors shall maintain and provide current certificates of insurance of the equipment used under the work assigned by ORSAC / Govt. Department under Odisha Government, as and when required by the Organizations. Any damage, if occur during the operation shall be compensated by the Insurance Organization and it is the responsibility of the Contractor to see the recovery against the damage from the Insurance Firm. Neither ORSAC nor Government Organizations of Govt. of Odisha will be responsible for any damage to UAV/Drone during the operation. The work shall not be halted due to any damage of the Drone/ UAV, another Drone/UAV shall be replaced to resume the operation at the earliest.
- X. Contractors may be required to perform background checks on their employees or certify that their employees have already received a background check in compliance with the requirements of ORSAC/Govt. Department under Odisha Government's laws and/or statutes. Background check requirements may vary from Govt. organization to Organization based on each Organization's requirements, participating addendum, or orders. Contractors will be expected to

comply with all background check requirements.

- XI. The Contractor has to fulfill the minimum specifications of **Professional Survey Grade UAS/UAV/Drone** with the Sensors conforming to the DGCA Guidelines issued time to time, in order to provide UAS image service to ORSAC/ any Govt. Department under Govt. of Odisha.
- XII. The Contractors will be asked to show the live demo for the UAS with the sensors they possess separately before the technical committee for evaluation. During the live demo evaluation, UAS and the Payloads/ Sensors with Gimbal to be used by the Contractor shall comply DGCA Guidelines F.No.05-13/2014-AED Vol. IV issued dated 27 Aug, 2018 and effective from 01 Dec, 2018 and the latest issued guideline by DGCA.
- XIII. The Contractors, those are interested to be empanelled under HRSI Based Image Services only, they have to indicate the same specifically and they have to produce Completion Certificates of two Completed Photogrammetric Jobs from Govt. Departments/Public Sector Undertakings/ Autonomous Bodies/ Societies under Govt. Registrations of any State/ Central Govt., issued by the Head of the Department.
- XIV. The Empanelled UAS Image Service Providers have to use the Survey Grade UAS and the Payloads / Sensors with the following Minimum Technical Specification against the Purchase Order issued by ORSAC/ User Departments of Govt. of Odisha for collecting High-Resolution Image Data and processing the same inside ORSAC Campus. The Minimum Technical Specification of Professional Survey Grade UAS is given below for reference and any vendor's sensor may not be identical but should not be lower level than the specifications given below, Further, for specific requirements after empanelment, the specifications by the ORSAC as per state/user requirement will be modified.
- XV. Establishment of Ground Control Points with respect to the PGCPs of SOI/ ORSAC in the study area as per the grid interval specified by ORSAC.
- XVII. Processing of acquired UAS data inside ORSAC Campus following security norms of ORSAC and Technical Guidelines as specified by ORSAC
- XVII. Any and all photographs, videos, data gathered, data analyzed, and reports generated shall be the sole property of ORSAC / State of Odisha.

BID SECURITY / EMD

1. All proposals submitted in response to the Notice must be accompanied by an Earnest Money Deposit (EMD) of Rs. 1, 00,000 (Rs One Lakh Only) in the form of a Bank Demand Draft drawn in favor of Odisha Space Applications Centre, payable at Bhubaneswar, Odisha from any scheduled Nationalized Bank of BBSR, Odisha. Bids submitted without EMD will be rejected.

2. The empaneled Vendors are to submit the empanelment charges in the form of Bank Draft amounting Rs.1.00 lakh (Rupees One lakh), only after receipt of empanelment order from ORSAC for providing UAS Image service and Photogrammetric Services to ORSAC / Govt. departments of Govt. of Odisha. After receipt of empanelment charges from the selected Vendors, the Empanelment Certificate will be issued by ORSAC for UAS Image service and Photogrammetric Services. The empanelment charges will not be returned by ORSAC.

Annexure-B

Terms of Reference for conducting Sand Replensihment study

S. No	Description	Specifications
1.	Benchmarks Establishment for Drone Base	Physical Benchmarks are to be fixed and the Reduced Level (RL) shall be validated from a near by previously Established Static DGPS base stations connected with SOI BM or as per Client's suggested Benchmarks. Required Accuracy 10mm or better. These RL should be properly engraved and placed at locations which are free from any damages and are available for pre and post study period. The accuracy of the ground control points (DGPS base stations & Check Points) will be checked by Network Adjustment Report/Post Processing Report submitted by service provider as deliverables (in RINEX Format).
2.	GCPs	GCP's shall be captured while flying drones over the Benchmarks established using DGPS for Corrections even the lease located in central part of the River. GCP's shall be established at a grid interval of 500 m x 500 m around the study area.
3.	Coverage	As per AOI with minimum of 50 m buffer all around the project area boundary demarcated with White Chuna (Limestone Powder) Line / Reflector Board
4.	GSD (Ground Sampling Distance)	2.5 cm
5.	Sensor	RGB
6.	Image format	Drone Captured Stereo: .jpg/.jpeg/.png/ point cloud (. las) Processed Outcome: Uncompressed Geo-TIFF/ point cloud(.las)
7.	Horizontal accuracy	Two Pixels
8.	Imagery Product	Seamless mosaic covering the project area and non-overlapping, edge matched.
9.	Horizontal Datum	The World Geodetic Datum 84 (WGS-84)
10.	Map Projection	The coordinate system for all deliverables is the Universal Transverse Mercator (UTM).
11.	Vertical Datum	EGM 2008 or latest
12.	Drone Survey Outcome • Point Cloud (Classified & Colored)	<ul style="list-style-type: none"> • Raw Drone data/images along with fly log, on board GNSS/IMU data.

	<ul style="list-style-type: none"> • Ortho Rectified Images (ORI) NCC & FCC • Digital Surface Model (DSM) • Digital Elevation Model (DEM) • Contours (Shape File) • Draping of NCC with DEM • GCP data 	<ul style="list-style-type: none"> • Point Cloud (Elevation Classified and RGB Colored) File format: .las • Post Processed for each Project area in Geo-tiff with GSD 2-5 -3.0 cm or better and Horizontal accuracy shall be 5 cm or better. • DSM & DEM with accuracy 5 cm or better • ORI in Geo-TIFF format • Contours Shape file • GeoTiff • .shp& excel format
	Drone Type	GNSS (RTK/PPK) Enabled Quadcopter always connected with DGPS Base Station during flight with a Dual Frequency RTK/PPK Receivers.
13.	Data Delivery Reports and Outcomes	<p>A delivery report describing the contents of the data supplied with every data delivery (interim, staged, final).</p> <ul style="list-style-type: none"> • Collection Report: Drone data collection report detailing mission planning and flight logs will be submitted. • Survey Report: A survey report detailing the collection of all ground control including the following will be submitted: <ul style="list-style-type: none"> - DGPS Base Ground Control points - Check points • Post Processing Report: <ul style="list-style-type: none"> - Post Processing Report detailing GNSS data, - Drone image processing, - Ortho Rectified Image generation, - DSM, DEM, Contours generation will be submitted. <p>QA/QC Report: A QA/QC report, detailing procedures for analysis, accuracy assessment and validation of the following will be submitted.</p> <ul style="list-style-type: none"> • GNSS ground control Point data (Absolute vertical accuracy/relative vertical accuracy) • Drone image processing, • Point Cloud Ortho Mosaic, DSM, DEM & Contour generation <p>DGPS Data:</p> <ul style="list-style-type: none"> • RINEX Data. • Shape Files. • RINEX Report. • Occupation sheet • Point Vector Sheet • Antenna height measurements • Instrument /antenna types & serial numbers <p>Drone Data:</p> <ul style="list-style-type: none"> • Raw Drone data • Images along with fly log, on board GNSS/IMU data
14.	Volumetric Calculation	<ul style="list-style-type: none"> • Report generated from the Pre and Post Drone Flight data using GIS Techniques. • Volume Calculation.

	<ul style="list-style-type: none">• 3D Maps showing the details of the Project area with all dimensions and quantity.• DSM/DEM for Pre and Post Monsoon volumetric change• Contours for Pre and Post Monsoon volumetric change
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(Full signature of Tenderer)

FORMAT OF FINANCIAL BID

Sl No.	Description of work	Rate quoted per Ha in Rs. (in figure & words)	Taxes, if any	Total cost per Ha in Rs. (in figure & words)

The details of the enclosed bank drafts:

The details of the enclosed documents:

- 1.
- 2.
- 3.

Full name, address, phone No. of the tenderer-

(Full signature of Tenderer)